Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A heat exchanger, in particular for a supercritical refrigeration cycle, having a block comprising tubes and fins, it being possible for a gaseous medium, in particular air, to flow over the fins, and it being possible for a second medium, in particular a refrigerant, to flow through the tubes, which are arranged in a plurality of rows, in particular in cross-countercurrent to the gaseous medium, ~~characterized in that~~ wherein at least four rows of tubes ~~(1.1, 1.2, 1.3, 1.4)~~ are arranged in series in the direction of flow L of the gaseous medium.

2. (Currently amended) The heat exchanger as claimed in claim 1, ~~characterized in that~~ wherein at least five rows of tubes ~~(2.1, 2.2, 2.3, 2.4, 2.5)~~ are arranged in series.

3. (Currently amended) The heat exchanger as claimed in claim 1 ~~or 2~~, ~~characterized in that~~ wherein six rows of tubes ~~(3.1, 3.2, 3.3, 3.4, 3.5, 3.6)~~ are arranged in series.

4. (Currently amended) The heat exchanger as claimed in ~~one of claims 1 to 3, characterized in that~~ claim 1, wherein the tubes are formed as flat tubes ~~(9)~~ and the fins are formed as corrugated fins ~~(10, 12, 13, 15)~~.

5. (Currently amended) The heat exchanger as claimed in claim 4, ~~characterized in that~~ wherein the flat tubes ~~(9)~~ are formed as extruded multichamber tubes.

6. (Currently amended) The heat exchanger as claimed in one of ~~claims 1 to 5, characterized in that~~ claim 1, wherein medium can flow through the tubes R of a row of tubes ~~(1.1, 1.2, 1.3, 1.4)~~ in parallel.

7. (Currently amended) The heat exchanger as claimed in claim 6, ~~characterized in that~~ medium can flow through the rows of tubes ~~(1.1 to 1.4; 2.1 to 2.5; 3.1 to 3.6)~~ in series.

8. (Currently amended) The heat exchanger as claimed in ~~one of claims 1 to 5, characterized in that~~ claim 1, wherein at least one row of tubes ~~(4.3, 4.4)~~ is divided into tube segments ~~(3a, 3b, 4a, 4b)~~ with individual tubes through which medium can flow in succession.

9. (Currently amended) The heat exchanger as claimed in claim 8, ~~characterized in that~~ wherein the rows of tubes ~~(4.3, 4.4)~~ which are divided into tube segments ~~(3a, 3b, 4a, 4b)~~ are arranged upstream of the undivided rows of tubes ~~(4.1, 4.2)~~, as seen in the direction of flow L of the gaseous medium.

10. (Currently amended) The heat exchanger as claimed in claim 8, ~~characterized in that~~ wherein all the rows of tubes ~~(6.1 to 6.4; 7.1 to 7.4)~~ are divided into tube segments ~~(1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b)~~ through which medium can flow in series.

11. (Currently amended) The heat exchanger as claimed in claim 10, ~~characterized in that~~ wherein the tube segments ~~(1a to 4b)~~ have different numbers of tubes.

12. (Currently amended) The heat exchanger as claimed in claim 10, ~~characterized in that~~ wherein the tube segments ~~(1a to 4b)~~ have approximately equal numbers of tubes.

13. (Currently amended) The heat exchanger as claimed in claim 10, ~~characterized in that~~ wherein the ratio a/b of the numbers a, b of the tubes of two tube segments ~~(1a, 1b; 2a, 2b)~~ in a row of tubes ~~(6.1; 6.2)~~ is in a range from 0.7 to 1.35.

14. (Currently amended) The heat exchanger as claimed in ~~one of claims 8 to 13, characterized in that~~ claim 8, wherein the tube segments ~~(1a, 1b; 2a, 2b; 3a, 3b; 4a, 4b)~~ are connected by header tubes and are separated by partition walls in the header tubes.

15. (Currently amended) The heat exchanger as claimed in ~~one of claims 1 to 14, characterized in that~~ claim 1, wherein adjacent rows of tubes are connected to one another by diverter members (V).

16. (Currently amended) The heat exchanger as claimed in ~~one of claims 4 to 15, characterized in that~~ claim 4, wherein the corrugated fins ~~(10)~~ of the individual rows of tubes ~~(8.1 to 8.4)~~ are thermally decoupled.

17. (Currently amended) The heat exchanger as claimed in ~~claim 4 to 15, characterized in that in~~ claim 4, wherein each case two rows of tubes ~~(11.1, 11.2; 11.3, 11.4)~~ have common, continuous corrugated fins ~~(12, 13)~~.

18. (Currently amended) The heat exchanger as claimed in ~~claim 4 to 15, characterized in that~~ claim 4, wherein all the rows of tubes ~~(14.1 to 14.4)~~ have common, continuous corrugated fins ~~(15)~~.

19. (Currently amended) The heat exchanger as claimed in ~~one of claims 4 to 18, characterized in that~~ claim 4, wherein the flat tubes ~~(9)~~ of different rows of tubes ~~(11.1 to 11.4)~~ are arranged aligned with one another.

20. (Currently amended) The heat exchanger as claimed in ~~one of claims 4 to 18, characterized in that~~ claim 4, wherein the flat tubes ~~(9)~~ of different rows of tubes ~~(16.1 to 16.4)~~ are arranged offset with respect to one another.

21. (Currently amended) The heat exchanger as claimed in ~~one of claims 4 to 20, characterized in that~~ claim 4, wherein the transverse pitch t_R of the flat tubes ~~(9)~~ is identical in all the rows of tubes ~~(16.1 to 16.4)~~.

22. (Currently amended) The heat exchanger as claimed in ~~claim 4 to 20, characterized in that~~ claim 4, wherein the transverse pitch t_R of adjacent rows of tubes varies.

23. (Currently amended) The heat exchanger as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein the block has a finned end face with a height H and a width B, and in that the ratio of B/H is in the range from 0.8 to 1.2.

24. (Currently amended) The heat exchanger as claimed in claim 23, ~~characterized in that~~ wherein the end face is approximately square in form.

25. (Currently amended) The heat exchanger as claimed in ~~claim 23 or 24, characterized in that~~ claim 23, wherein the end face has a surface area A in a range from 4 dm^2 to 16 dm^2.

26. (Currently amended) The use of the heat exchanger as claimed in ~~one of the preceding claims~~ claim 1 as a gas cooler in a supercritical refrigeration cycle of a motor vehicle air-conditioning system, which is preferably operated with R744 (CO_2).